## AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of peer-to-peer connecting devices when implementing dynamic networking in a home network, including a connection creating method and a connection disconnecting method of peer-to-peer devices, which is characterized in that:

a connection configuration is performed to all devices requiring a peer-to-peer connection, which includes configuring account information containing a user name and a password for allowing connections and a maximum parallel connection number allowed by a device;

said connection creating method of peer-to-peer devices includes the steps of:

a. sending a device connecting request from a connection initiating device in the home network to a connection target device in the network;

b. ~~with respect to the connection initiating device allowed to be connected,~~ generating a connection challenge value randomly by the connection target device and sending it to the connection initiating device;

c. generating a connection reply value according to the received connection challenge value by the connection initiating device and sending it to the connection target device;

d. sending a connection response message from the connection target device to the connection initiating device according to the connection reply value; and

e. judging a result of connection according to the connection response message by the connection initiating device, if the connection response message includes information on a successful connecting result, establishing a peer-to-peer connection between the connection initiating device and the connection target device;

said connection disconnecting method of peer-to-peer devices includes the steps of:

f.   sending a connection disconnecting message from the connection initiating device
[[or]] to the connection target device ~~to the other;~~ or from the connection target device to the
connection initiating device;

g.   ~~regarding~~ determining, by the connection target device or the connection initiating
device which receives the connection disconnecting message, that ~~this~~ the connection has been
disconnected.

2. (Original)  The method of peer-to-peer connecting devices when implementing
dynamic networking in a home network according to claim 1, wherein said connection setting to
devices is a direct setting through a human-machine interface on devices or a remote setting through
other devices having human-machine interfaces.

3. (Original)  The method of peer-to-peer connecting devices when implementing
dynamic networking in a home network according to claim 1, wherein said connection initiating
device is a service providing device or a service utilizing device, and said connection target device
is a service utilizing device or a service providing device.

4. (Original)  The method of peer-to-peer connecting devices when implementing
dynamic networking in a home network according to claim 1, wherein with respect to the device
connecting request in said step a, the message fields include type of message, serial number of
message, user name and serial number of connection request.

5. (Original)  The method of peer-to-peer connecting devices when implementing
dynamic networking in a home network according to claim 1, wherein in said step b, said
connection allowed further includes the steps of: judging whether the number of connection
initiating devices currently connected with the connection target device has reached the upper limit
of the allowed connection number; and judging whether the user information of the connection
initiating device is in the connection target device.

6. (Currently Amended) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 5, wherein when ~~in the step b,~~ the number of devices connected with the connection target device ~~has already reached~~ reaches the upper limit of the allowed number of connected devices, ~~then in the step e, the~~ a connection target device that is subsequently overloaded sends a connection response message ~~whose connecting result is overload~~ to the connection initiating device; and when ~~in step b,~~ there is no user information of the connection initiating device ~~is present~~ in the connection target device, ~~then in the step e,~~ the connection target device sends a connection response message ~~whose connecting result is denial to access~~ denying access to the connection initiating device.

7. (Original) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein the connection challenge value sent in said step b includes type of message, serial number of message, serial number of connection response message, connecting result, authenticating algorithm identifier and challenge value.

8. (Original) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein the message of challenge reply value sent in said step c includes type of message, serial number of message, serial number of connection request and the reply value constituted by a reply character string.

9. (Original) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein with respect to the connection response message in said step d, the message fields include type of message 2, serial number of message, serial number of connection response message and connecting result.

10. (Original) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein said step d further includes the steps of: if the connection target device sends a response message containing information about

6

successful connection to the connection initiating device, then the connection target device and the connection initiating device increasing the number of currently connected devices by one.

11. (Original) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein in said step b, said connection target device also saves the connection challenge value; in said step c, said connection initiating device retrieves key information corresponding to the connection challenge value and generates said connection reply value together with the connection challenge value; in said step d, the connection target device judges validity of the connection reply value according to the saved connection challenge value and the key corresponding to this connection challenge value, and when it is valid, sends a connection response message about success of connection to the connection initiating device, and when it is invalid, sends a connection response message about denial of access to the connection initiating device.

12. (Original) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein after said step c, a transmission key is generated between the connection initiating device and the connection target device which have established a peer-to-peer connection therebetween in accordance with an encryption method defined in a security mechanism, and is used to transmit subsequent data.

13. (Original) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein with respect to the connection disconnecting request message in said step f, the message fields include type of message, serial number of message and reason for disconnecting connection.

14. (Currently Amended) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein said steps f and g further include the steps of: while the connection target device and the connection initiating device sends and receives the connection disconnecting request, ~~they decrease~~ the number of currently connected devices is decreased by one.

7